MITSUBISHI MOTOR SALES OF AMERICA, Inc.

TECHNICAL SERVICE BULLETIN

SUBJECT: **A/C SYSTEM LEAK CHECKING**

NO.	TSB-94-55-001
DATE	June, 1994
MODEL	All with A/C

BACKGROUND INFORMATION

Analysis of warranty-returned A/C components indicates that many components are replaced even though they are not leaking and are functioning normally.

To accurately inspect automotive A/C systems for refrigerant leaks, follow the procedure outlined in this bulletin. The A/C leak detection procedure is a summary of two documents published by the Society of Automotive Engineers (SAE): Document 1: ***SAE J1627*** *(Rating Criteria for Electronic Refrigerant Leak Detectors)*. Document 2: ***SAE J1628*** *(Technician Procedure for Using Electronic Refrigerant Leak Detectors for Service of Mobile Air Conditioning Systems)*.

VEHICLES AFFECTED

All vehicles equipped with A/C (R-12 and R-134a)

A/C LEAK DETECTION PROCEDURE

CAUTION: A/C system repair and servicing should be performed by qualified technicians only. While performing the procedure in this bulletin, observe ***all*** service manual precautions regarding handling of R-12 and R-134a refrigerant, and A/C system repair and servicing.

NOTE: Before proceeding, it is necessary to obtain an A/C system leak detector that meets ***SAE J1627*** requirements. The leak detectors listed below conform to this standard.

Model Number	Company	Telephone Number
H10N	Yokogawa Corp. of America	1-800-447-9656
TIF5750	TIF Instruments, Inc.	1-800-327-5060
EELD102	Snap-On Tool Corp.	1-800-866-5748

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FILE UNDER: Group 55 Htr, A/C, Ventilation in the Dealer Service Information Binder (1330)

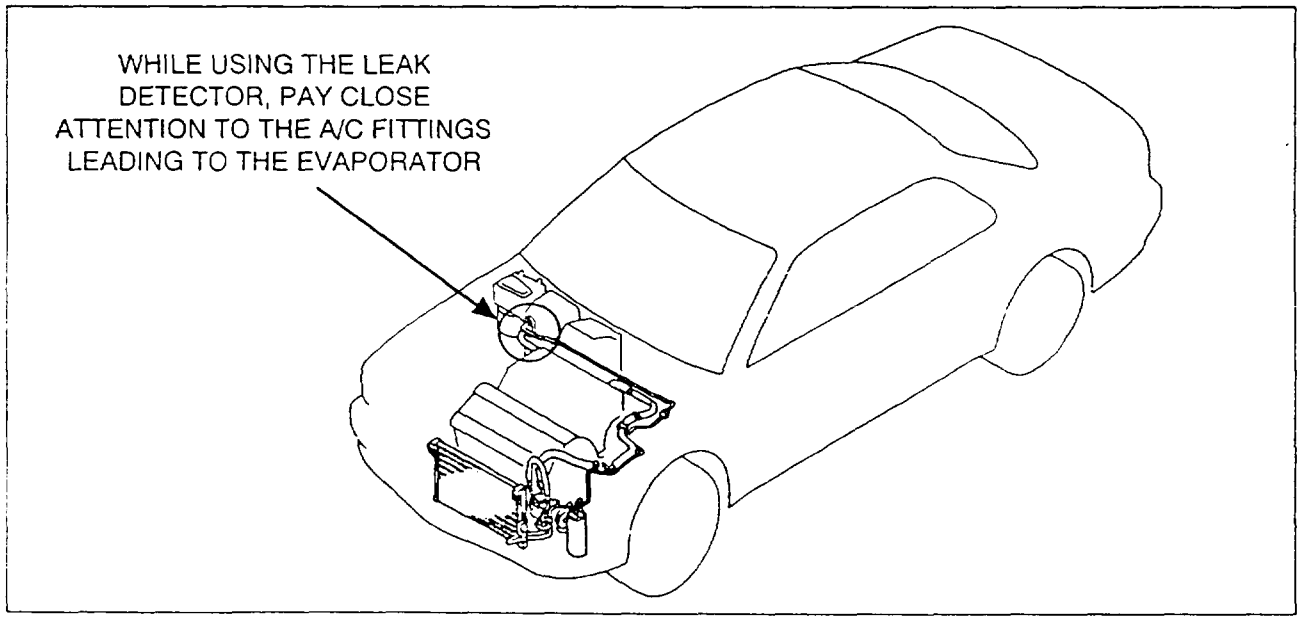
CIRCULATE TO:
- [x] SERVICE ADVISOR
- [x] GENERAL MANAGER
- [x] SERVICE MANAGER
- [ ] PARTS MANAGER
- [x] WARRANTY PROCESSOR
- [x] TECHNICIAN
- [ ] SALES MANAGER

NOTE: To accurately detect A/C system leaks, the ambient (outside) air temperature must be at least 60°F. At temperatures below 60°F, reliable leak detection may not be possible.

1. Check the A/C compressor drive belt for proper tension. If necessary, adjust the drive belt tension. Refer to Group 11 of the appropriate vehicle's service manual for A/C drive belt tension specifications.
2. With the engine and A/C off, attach A/C refrigerant gauges according to service manual instructions and measure system pressure. The reading must be ***at least 50 psi (340 kPa).*** If necessary, add refrigerant to raise the system pressure to 50 psi. ***For most A/C systems, 4 ounces of refrigerant will produce a system pressure of 50 psi.*** After the system has been sufficiently charged, remove the A/C refrigerant gauges.
3. Visually trace the path of the A/C system, looking for signs of damage, corrosion, or A/C lubricant leakage on hoses, fittings, service ports, and components.
4. Check all questionable areas using an ***SAE J1627-Approved A/C Electronic Leak Detector.*** If the area to be tested is excessively dirty, clean it with a dry shop towel and compressed air. Do not use cleaning agents as they can create a false reading from the leak detector.
5. Following the instructions supplied with the A/C leak detector, ***probe each questionable area 1/4 inch from the surface, at a rate no faster than 1 to 2 inches per second.*** If the leak detector alarm sounds, make a note of the leak location, reset the detector, and continue to probe, since more than one leak may be present.

NOTE: Do not allow the tip of the detector's probe to touch any surfaces, or to become contaminated with dirt, moisture, or other foreign material.

6. While using the leak detector, pay close attention to the A/C fittings located on the bulkhead (leading to the evaporator). The O-rings in these fittings can be a likely source for refrigerant leakage.



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7. Perform a leak test of the A/C evaporator:

   a. Run the A/C on "High" for 15 seconds, turn the A/C "Off," and wait for refrigerant to accumulate in the evaporator case. The time period for refrigerant accumulation is specified in each leak detector's instructions.

   b. After the specified time period, insert the leak detector probe in the evaporator drain tube (if no condensation is present), or through a heater vent closest to the evaporator case. If the leak detector alarm is heard, a refrigerant leak is probably located in the evaporator.

8. After repairing the A/C system, re-check for refrigerant leaks using the procedure outlined in this bulletin.

WARRANTY INFORMATION

Inspection of warranty-returned A/C components reveals that several returned A/C parts function normally and do not leak. To avoid unnecessary component replacement, be sure to follow the leak detection procedure in this bulletin.

Use standard warranty procedures when repairing or replacing A/C system components.

Produced by the Technical Information Department,
Mitsubishi Motor Sales of America, Inc.

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